

# A NEW RECORD OF THE SCALY-TAILED POSSUM (*WYULDA SQUAMICAUDATA* ALEXANDER)

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## INTRODUCTION

For many years the Sealy-tailed Possum has been known from only two specimens, collected at long intervals. The type, a female, was described by Alexander in 1919. It had died in captivity at South Perth Zoological Gardens but came originally from Violet Valley Station. The second specimen, a male, was collected at Kunmunya Mission by the Rev. J. R. B. Love, and described by Finlayson in 1942.

In the present paper two further specimens of this rare marsupial, a female and pouch young, are recorded and described. These were collected by Mr. Ken Buller, of the Western Australian Museum, during a recent field trip to Wotjulum Mission. The description of the adult is largely a comparison with the literature descriptions of the other two specimens, and the skin of the type which is housed in the Western Australian Museum. It does not seem necessary to give a complete description as those of Alexander and Finlayson, particularly the latter, are very detailed. The pouch young is not very advanced but as it is the only specimen ever collected, it seems worthwhile to record some of its external characters.

The localities from which the three specimens have come are shown on a map (Fig. 1).

The author is very grateful to Mr. L. Glauert, Director of the



Fig. 1.—Kimberley Division of Western Australia, showing collecting localities (black spots).

Western Australian Museum, for permission to examine the specimens and for the use of the laboratory facilities of the Museum, to Mr. K. Buller for details of the fresh specimen and field notes, and to Mr. A. M. Douglas of the Museum staff for field notes.

#### ADULT FEMALE

West. Aust. Mus. No. M2988, collected by K. Buller, Wotjulm Mission, June 30, 1954.

In measurements of skin and skull, the new specimen is smaller than either of the previous ones. Measurements of the three specimens are given in Table 1.

TABLE 1

Measurements of the three known specimens of *Wyulda squamicaudata*

	Alexander (1919) ♀ (From filled skin)	Finlayson (1942) ♂ (From filled skin)	New specimen ♀	
			From filled skin	From fresh specimen
Head and body	420 mm.	427 mm.	Abt. 425 mm.	362 mm.
Tail	305	330	.. 280	272
Pes	45	49	42	41
Ear	26	28	23	

It is apparent that the skin of the new specimen has been stretched in preparation, and it is probable that Alexander's and Finlayson's specimens were also stretched somewhat, and the published measurements of the filled skins do not give a true indication of the animal's proportions.

Further details of the fresh specimen are as follows: Iris, dark brown; nose, bright flesh pink; inside of ear, flesh colour. The animal, including pouch young, weighed 3lb. 1½oz. As the young is very small the weight of the adult was of the order of 3lb.

The hair is short, soft, fine, and dense. In the mid-dorsal region, the main body of hair is about 12 mm. long with the overhairs reaching to about 18 mm. The general dorsal colour is pale grey but the black tips to the longer hairs give it a somewhat darker and mottled appearance. There is a slightly brownish appearance towards the rump, particularly at the root of the tail. A fairly well defined dark stripe on the mid-dorsal line runs from the shoulders to the rump. The sides are paler than the back and the sides of the face are a pale grey. The demarcation from the grey sides to the ventral fur is not very abrupt. Ventrally the fur is a creamy white, slightly yellowish in places, particularly under the throat and inside the fore-limbs. The long hairs inside the pouch margin are pigment-stained yellow-brown.

The facial vibrissae are strongly developed and all are black. The mysticials reach 66 mm. and the genals 48 mm. The supra-

orbitals are broken. The ulnar carpals are mostly white but some are dark at the base or lower half. The calcaneals are white and the medial antebrachials white on the upper half and dark on the lower half.

The tail is similar in structure and colour in all specimens. The new specimen has the very short bristly hairs around the scales as described by Finlayson. The base of the tail is densely furred and the fur ends abruptly and linearly. Finlayson remarks that in the original description it was stated that the hair on the proximal end of the tail was scanty. From an examination of the type it seems clear that this specimen also had a densely furred base to the tail but the fur is worn off in places, possibly as a result of the animal's captivity.

In order of length the digits are the same in all specimens, viz., 4, 3, 5, 2, 1.

It is apparent from Finlayson's description that the new specimen is close to his in general coloration. The colours of the new specimen and the type skin are quite different when compared. The type is considerably more brownish dorsally and much more yellowish ventrally. None of the three known specimens has the reddish head and limbs of the coloured figure published in Troughton (1941).

Except for the somewhat smaller size, the skull and teeth are similar to those described and figured by Finlayson. There is a fair degree of wear on the incisors and molars. Table 2 gives some measurements of the skull and teeth of the new specimen and comparative measurements of the other specimens.

TABLE 2  
Some measurements of skull and teeth of the three known specimens of *Wyulda squamicaudata*

	Alexander (1919) ♀	Finlayson (1942) ♂	New specimen ♀
Basal length	73 mm.	74.1 mm.	68.0 mm.
Greatest breadth	54	51.4	49.1
Nasals length	29	31.2	27.8
Nasals greatest breadth	14.5	14.4	13.7
Nasals least breadth	10.3	7.3	6.8
Constriction breadth	8.7	9.6	9.2
Palate length	33	About 43	About 42
Palate breadth outside M <sup>2</sup>	23	23.5	22.8
Palate breadth inside M <sup>2</sup>	15.2	14.2	15.0
Horizontal length of P <sup>1</sup>	4.7	5.0	4.5
Max. length of P <sup>1</sup> along oblique axis		5.6	5.0
Length M <sup>1-3</sup>	12.5	12.1	12.1
Length of lower incisor	12	13.9	13.3

Finlayson pointed out the wide discrepancy between his and Alexander's figures for palate length and least breadth of nasals and stated that the type description seemed erroneous as the illustrations did not support the measurements.

### POUCH YOUNG

West. Aust. Mus. No. M2989. Sex ♀.

Measurements: Head and body, roughly 60 mm.; crown to rump, about 48 mm.; tail, 23 mm.; pes, about 8 mm.; ear, about 3 mm.

The general form of the young is shown in Figure 2A.

Fine pale hair is showing on a large part of the surface of the body. It is showing fairly well on the crown and somewhat better on the dorsum between the fore-limbs to about the mid-

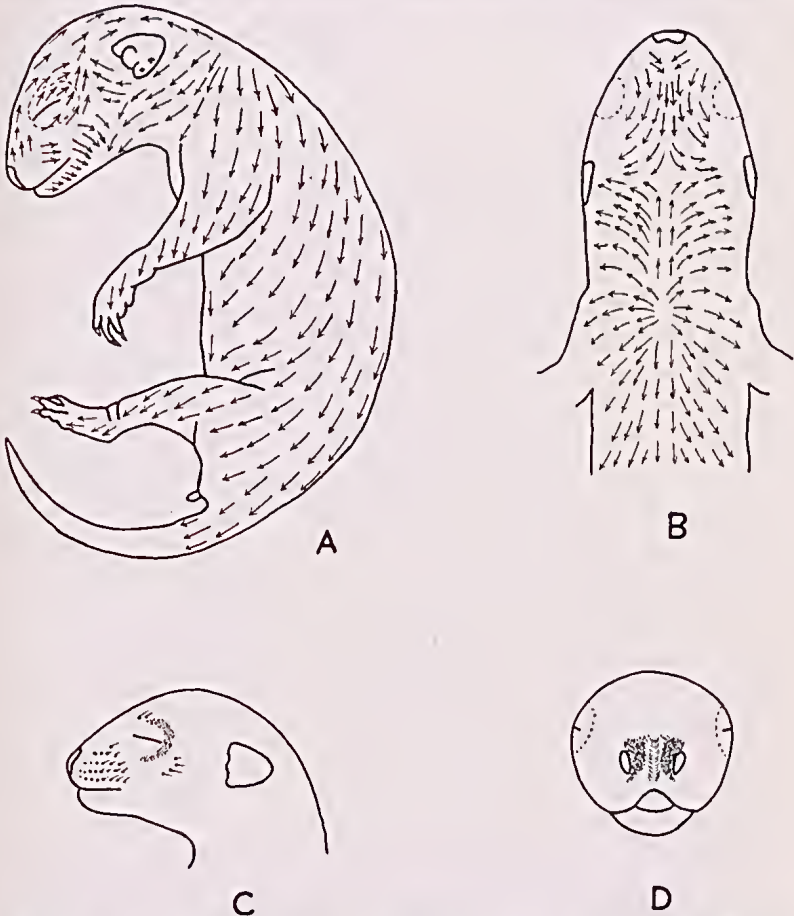


Fig. 2.—Pouch young of *W. squamicaudata*. A—General appearance and some hair traets (approximately to scale). B—Dorsal view in part, showing hair traets (freehand sketch only). C—head showing faeial vibrissae (approximately to scale). D—Rhinarium and mouth (freehand sketch only).



point of the back. It is scant and very short backwards from here and on the ventral surface. The hair ends abruptly on the tail as in the adult. Some of the hair tracts are shown in Figs. 2A, B. However, the specimen is much too immature for accurate hair charting and there seems little point in giving a detailed description.

The mystacial vibrissae are best developed and arise from pigmented papillae arranged in 5 rows. Row 1, the superior row, contains 1 and the others 4, 6, 7, 7, or 8, 8. It is possible that 7 is the correct number for the two lowest rows. The most anterior papillae are not very apparent and the vibrissae are very short and difficult to distinguish from ordinary hairs. There are 2 short supraorbitals arising from pigmented papillae. There appear to be 4 very short genals. The submentals and interramals are not apparent. The vibrissae are very pale but the longer posterior ones in the mystacial set have dark bases. The mysticals protrude at right angles to the surface but the supraorbitals and genals are directed backwards at an angle. The facial vibrissae are shown in Fig. 2C.

The rhinarium is naked and pigmented as indicated in Fig. 2D. There is a central furrow between the pigmented areas which terminates before reaching the upper lip. The nostrils are oval-shaped. The shape of the mouth is typical of young marsupials still attached to the teat. Lateral from the oral aperture the lips are marked by a furrow. The position of the eye is marked by an unpigmented horizontal furrow, and a crescent-shaped pigmented area visible beneath the skin.

The fore-limbs are considerably better developed than the hind-limbs. The nails on the manus are also considerably better developed than those on the pes. The digital formula is as follows: 3 and 4 are about equal and greater than 5 and 2 which also are about equal. All are greater than 1. The pes formula is the same as the adult, i.e., in order of length: 4, 5, 2, 3, 1. Digit 1 is relatively well developed and has no nail. The nails on the syndactylous toes are very small. The ulnar carpal vibrissae are showing from pigmented papillae but are very short and pale. The other fore-limb vibrissae and the calcaneals are not apparent.

The pinna is very small, is directed backwards, and flat against the head. It is too poorly developed to warrant detailed description.

The tail narrows visibly at the line where the hair ceases. No trace of scales could be seen. The pouch is a shallow pit and no internal features could be seen.

#### FIELD NOTES

No field notes were given by Alexander or Finlayson, except that the latter published the information given to Love by Worora tribesmen who said that the animal's native name was "Ilan-gurra" and it lived amongst rocks.

The present specimen was collected by Mr. Buller and Mr. R. Miller, of the Wotjulum Mission staff, at 7.30 p.m. on a warm

pitch dark night. The animal was first seen about 25 feet from the ground, amongst the outer foliage of an overhanging lateral branch of a large bloodwood (*Eucalyptus*) tree, and appeared to be feeding on blossom. In the torehlight it appeared white, and the thin tail was noted. When the light was shone on the animal it moved off slowly, crossed to a vertical limb and climbed as high as possible, to about 50 feet from the ground. The tail was wrapped around the thin limb at times while the animal was climbing. The tail was eurlled around a thin branch when the animal was shot and the body hung pendulously but the strong tail grip was not released, even in death. The fresh specimen was earefully searched for parasites but none were found.

Mr. Buller asked several old Worora independently for the native name and all knew it as "Illungalya." The old people stated that the animal lived deep in rocks during the day and eame out at night to feed on the bloodwood flats. They said it left the rocks and elimbed the nearest tree, and then crossed from tree to tree without coming to the ground. It always returned to its home in the rocks well before dawn.

The animal is apparently exsessively rare at Wotjulum. Only the old aborigines had seen the species previously. Mr. Buller spent about a month in the area in June and July, 1954, but saw only this one, and although large monetary rewards were offered to the aborigines for another specimen, none was obtained. Mr. A. M. Douglas spent five weeks in the area in September and October, 1955, and also offered substantial rewards, but without result. He personally searched for many hours at night in every type of habitat and camped out often, but did not see the animal.

#### REFERENCES

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## A REVIEW OF THE GENUS COXIELLA SMITH, 1894, SENSU LATO

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A. E. Smith compared some Australian decollate euryhaline shells with the South African genus *Tomichia* Benson, 1851, but because of the differing structure of the opereula he erected a new genus, *Coxiella*, for them. It was unfortunate that Smith in his discussion confused at least three different shells, lumping them together under Menke's species *striatula*. The identity and separation of these will be diseussed under individual species below. Species described by Iredale and the present author have